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1. Generally

1.1 User's manual

This user's manual is intended for the end user of UniControl. For more detailed information regarding mounting, adjustment, service and trouble solving, we refer to the separate documentation regarding this.

The user's manual should be read carefully before taking the plant into operation. All copyrights belong to Guldager A/S. Replication is allowed for internal use only. This user's manual is only applicable for UniControl and should be placed in a visible spot near the plant.

If you have any questions to this manual or to the operation of the plant, please do not hesitate to call us.

Guldager A/S
Hejrevang 1-5
3450 Allerød
Tel. +4548134400
www.guldager.com
E-mail: guldager@guldager.com

1.2 Technological background

In corrosion protection we distinguish between protection of pipe systems by using corrosion inhibitors (fig. 1) and cathodic protection (fig. 2) of e.g. boilers and tanks.

Corrosion inhibitors are dissolved aluminium distributed to the pipe system. Cathodic protection is replacement of ions, i.e. the ions which are evolved when iron corrodes are exchanged by other ions and thereby preventing corrosion. The dissolution of aluminium and cathodic protection often take place in the same boiler, but can appear separately.

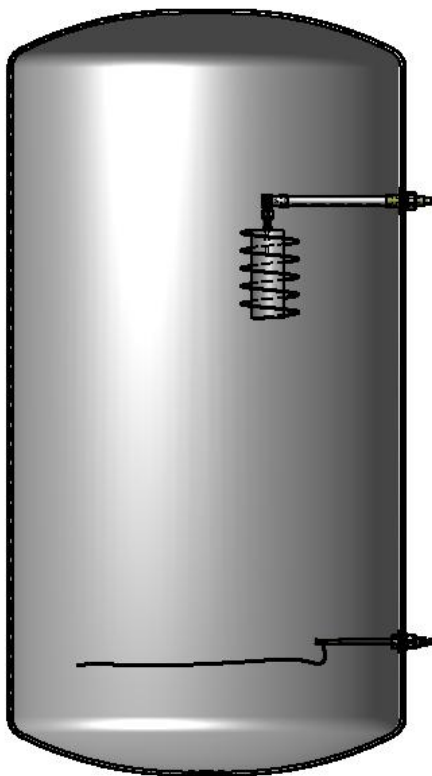


Fig. 1 Katolysis

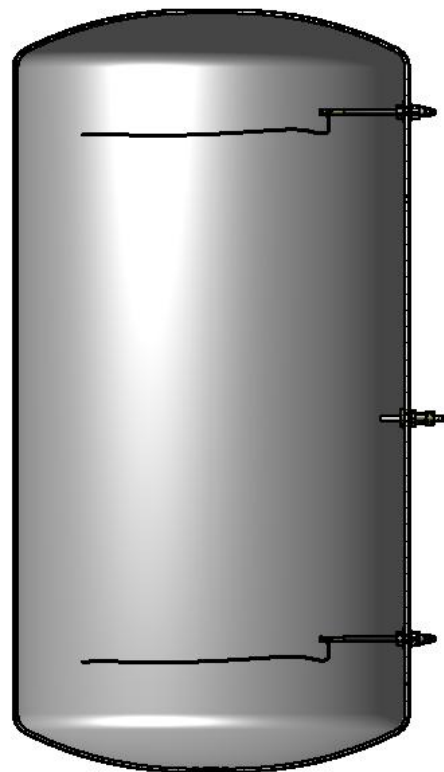


Fig. 2 Cathodic protection

User's manual

1.3 Warranty

Guldager A/S guarantees all the mechanical and electrical parts of the plant as well as its mechanical construction for a period of 12 months. This guarantee is valid from the date of transfer. Within this period all parts that cannot be used because of faulty construction, defective material, or defective accomplishment are repaired or replaced.

Guldager A/S cannot be held responsible for damages caused by the delivery after the transfer:

- a. on real property or movables that occur while the delivery is in the buyer's possession.
- b. on products, which have been produced by the buyer, or on products, of which these are a part, or for damages on real property or movables, caused by these products as a consequence of the delivery.

Under no circumstances, the supplier can be held responsible for loss of profits, or other financial consequential losses.

By changes of the plant without written approval from Guldager A/S or by the use of in genuine spare parts, the warranty will no longer apply.

1.4 Warnings

1.4.1 Generally

The plant must only be used if the plant is in secure condition and only for the plant's normal application, see 2.1.

By incompetent use and despite all technical, safety measures and personally protection equipment we cannot completely eliminate damage on the plant or even personal injury. If accidents occur despite all security measures, Guldager must be informed in order to clarify the cause and to eliminate any possible existing risks.

1.4.2 Mounting & start-up

Mounting must be carried out by authorized personnel and in compliance with the applicable legislation and the instructions according to Guldager's mounting instructions.

Start-up should be carried out by Guldager.

2. The product

2.1 Application

UniControl is available in several configurations and is used for controlling and monitoring of current, potentials, temperature and alarms for corrosion protection of boilers and pipe systems.

2.2 Adaption of the product

UniControl can be individually adapted to the actual task regardless the number of boilers and type of corrosion protection, Katolysis, Electrolysis, cathodic protection or a combination of these.

2.3 Identification of the product

UniControl is a specially designed steel cabinet measuring 400 x 300 x 160 mm with a 2 line display and 5 push buttons on the front. GSM antenna and connections are placed in the bottom. The cabinet can be identified through the serial No. on the right side of the cabinet.

3. Preparation for the application of UniControl

3.1 Transportation

The cabinet is delivered assembled from Guldager A/S carefully packed in a cardboard box and with loose parts in a separate bag. The cabinet must not be exposed to any kind of pressure during transportation.

3.2 Mounting & operation

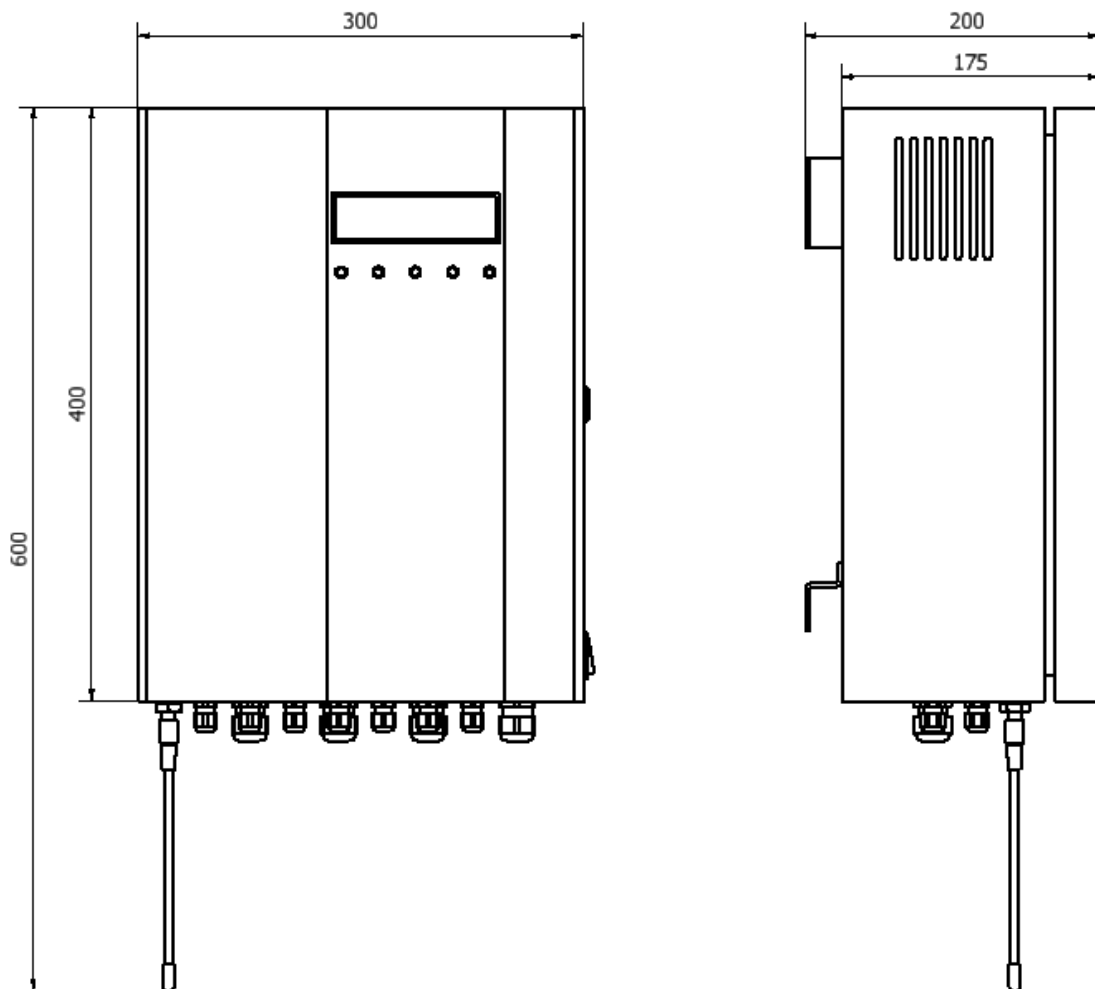
The mounting of the cabinet must proceed according to the mounting instructions and drilling template, enclosed in the delivery. The instructions are also available on www.guldager.com

The connection and start-up will be carried out by Guldager.

4. Specifications

4.1 Dimensions

UniControl	
Dimensions (h x b x d), mm	300 x 400 x 175
Min. clearance (above x below x side), mm	100 x 500 x 100
Weight (kg)	15



4.2 Supply data

UniControl	
Connection (V)	230
Fuse (A)	10
Max. temperature, surrounding area (°C)	45

4.3 Antenna coverage

The antenna receives and transmits GSM data and depends on sufficient coverage.

If the coverage is insufficient in the area where the cabinet will be mounted (deep basement, in the centre of a large building etc.), it is possible to mount an extension cord between cabinet and antenna. The antenna can then be placed somewhere with better coverage. In the configuration menu it is possible to read the actual coverage, when the installation has been completed.

5. User's manual

5.1 Normal operation

The front of the UniControl cabinet is provided with a display informing of the status of the plant. The control buttons are also placed here.



In the display the plant data are showed in a slowly running sequence.

*Programme No. and
language version*

```
Unicontrol ver.: 1.93DK
Anlæsesnummer: xxxxxxx
```

Plant No.

Active group

*The instant water consumption
(the cabinet is controlled by the
water consumption)*

```
GRUPPE 1: Flow 0.0 m³/h
0.00 U 0.00 A
```

*The actual voltage on the
anode*

*The actual current on the
anode*

Active group

*Max voltage and current
(the cabinet is controlled by
fixed values)*

```
GRUPPE 2: Umax+Imax
0.00 U 0.00 A
```

*The actual voltage to the
anode*

*The actual current to the
anode*

Active group

*Potential controlling (the cabinet
is controlled by a potential pilot
cell). The actual current measured
by the cell*

```
GRUPPE 3: Pot. 0.0 U
0.00 U 0.00 A
```

*The actual voltage to the
anode*

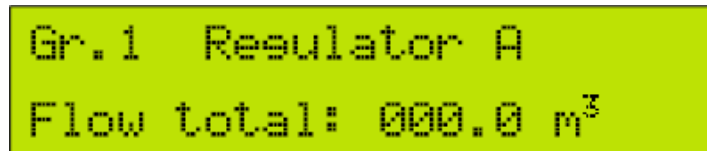
*The actual current to the
anode*

User's manual

5.2 Sub menus

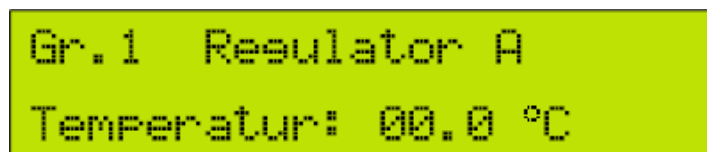
With the  button it is possible to switch between sub menus in the different groups. The following displays will be shown in classification:

The chosen group and relevant regulator



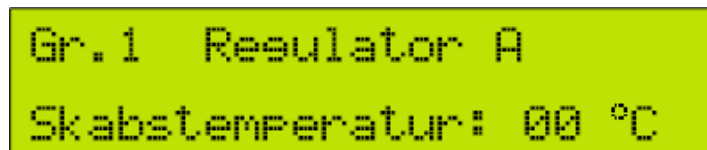
Gr.1 Regulator A
Flow total: 000.0 m³

*The accumulated water consumption
(since previous reset)*



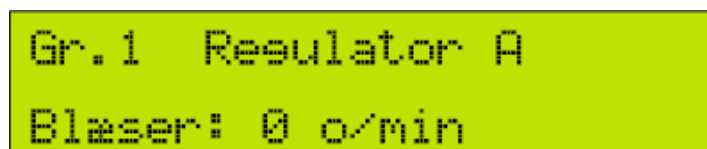
Gr.1 Regulator A
Temperatur: 00.0 °C

*The temperature of the water,
where the sensor is placed
inlet or return*



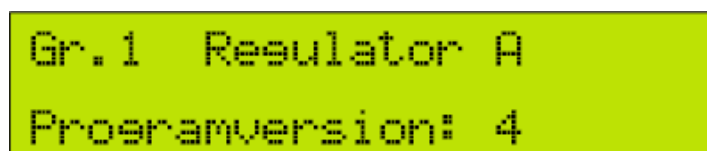
Gr.1 Regulator A
Skabstemperatur: 00 °C

*The temperature of the cabinet
(might be relevant in connection
with troubleshooting)*



Gr.1 Regulator A
Blæser: 0 o/min

*Revolutions per minute of the fan
OBS! Only relevant when cooling*



Gr.1 Regulator A
Programversion: 4

The actual programme version

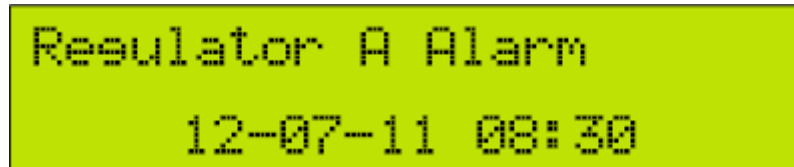
It is not possible to change the set-up (password protected). If no buttons in the submenu are activated, the display will revert to the sequence described on page 11.

5.3 Alarms

If the cabinet registers errors or if any of the values exceed the predefined set-points, the cabinet will activate an alarm, the following will be shown in the display:

The actual regulator

Identification of alarm



Registered date and time of the alarm

When an alarm is activated, message is sent to one or more (if requested) cell phones and to Guldager. Guldager will estimate which action should be taken.

The alarm is reset by pressing the  button

5.4 Troubleshooting

Problem	Cause	Action
No light in display	a. Failure in the current to the cabinet.	a. Turn on the switch to the cabinet; it might be switch on the wall and switch in the cabinet. Check fuse in the safety fuse device.
	b. Automatic defect.	b. Call Guldager for service.
Alarm flashes in display	a. The cabinet has noted an error.	a. Depending on type of telephone agreement, alarms are sent to Guldager through the mobile net. In this way, Guldager will be informed of the alarm.
Suddenly, the cabinet is hot	a. Fan is not running	a. Switch forward in the menu and check whether the fan is defect.
	b. Vent holes are clogged	b. Check if there is free space around the vent hole and make sure that they are clean.
Suddenly, the water consumption is not accumulated	a. Water meter defect, is not mowing	a. Water meter must be replaced, call Guldager for service.
	b. Cable has been separated from water meter/cabinet	b. The cable connection must be re-established, call Guldager for service.
Suddenly, the temperature of the water is not shown	a. Sensor defect	a. Sensor must be replaced, call Guldager for service.
	b. Cable has been separated from sensor/cabinet	b. The cable connection must be re-established, call Guldager for service.

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6. Maintenance

Due to the heat exchange from current supplies and prints in the cabinet, it is important that the air convection in and around the cabinet is working satisfactorily. Minimum once a year it must be secured that the vent holes are free of dust etc.

7. Disposal

For disposal of the cabinet, please contact Guldager who will make sure that all parts are disposed correctly or recycled if possible.

User's manual

Enclosure A Declaration of conformity

Declaration of Conformity

Konformitätserklärung

I henhold til maskindirektivet 2006/42/EF, Bilag II, A

According to the following directive: Machinery 2006/42/EC, Encl. II, A
gemäß den Richtlinien für Maschinen 2006/42/EG, Anlage II, A

Guldager A/S
Hejrevang 1-3,
DK-3450 Allerød

erklærer på eget ansvar at følgende produkt

declares, under own responsibility, that the following product:
bestätigt unter Eigenverantwortung, dass das folgende Produkt:

Produkt: UniControl

(navn, type eller model, parti, portion eller serienummer, eventuelt kilde og antal emner)

(name, type or model, part, batch, or serial number, source, if any, and number of subjects)

(Name, Typenbezeichnung oder Modell, Partie, Portion oder Seriennummer, evtl. Quelle und Stückanzahl)

som er omfattet af denne erklæring, er i overensstemmelse med følgende standard(er) eller andre normative dokument(er)

which is covered by this declaration, complies with the following standard(s) or other normative document(s)

umfaßt von dieser Konformitätserklärung, in Übereinstimmung mit den folgenden Richtlinien oder anderen normativen Dokumenten ist.

EN 14121, EN 12100, EN 13850, EN 13849-1, EN 60439-1, EN 60204-1

(titel og/eller nummer samt udgivelsesdato for standard eller andre normative dokumenter)

(title and/or number and date of publication of standard or other normative documents)

(Titel und /oder Nummer sowie Erscheinungsdatum für Standards oder andere normativen Dokumente)

i henhold til bestemmelserne i Direktiv: Maskindirektivet (2006/42/EF), R&TTE Direktivet (1995/5/EF), Lavspændingsdirektivet (2006/95/EF) og EMC-direktivet (2004/108/EF)

As stated in the requirements of the following directives: Machinery (2006/42/EC), Low Voltage Electrical Equipment (2006/95/EC), and EMC (Electromagnetic Compatibility, 2004/108/EC)

gemäß den Bestimmungen der folgenden Richtlinien: Maschinen (2006/42/EG), R&TTE (1995/5/EF), elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen 2006/95/EG und die elektromagnetische Verträglichkeit (2004/108/EG).

Leverandørerklæringer er indhentet fra vore underleverandører – alle komponenter overholder nedenstående direktiver

Statements from sub-suppliers have been asked for – all components observe the directives mentioned below

Lieferantenerklærungen wurde von unseren Zulieferanten eingeholt – alle Komponente erfüllen die nachfolgenden Direktiven.

2006/95/EC, 2004/108/EC, 2006/42/EC, 1995/5/EF

(overensstemmelseserklæring, oversigt over normative dokumenter, direktiver og standarder benyttet til konstruktion af lev. komponenter)

(declaration of conformity, review of normative documents, directives, and standards used for construction of delivered components)

(Konformitätserklärung, Übersicht über normative Dokumente, Direktiven und Standards benutzt zur Konstruktion der gelieferten Komponenten)

Allerød, 12-07-2012

Thomas Vartou



(udstedelsessted og dato) (navn og underskrift eller tilsvarende identifikation af bemyndiget person)

(Place, date) (name, and signature of subscriber)

(Ort, Datum) (Name und Unterschrift)